

OCT 04 2007

00839-03

Serial No. 10/533,994
Response of October 4, 2007

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, in the application:

What is claimed is:

1 1. (currently amended) ~~A cementitious material manufacturable process, said~~
2 method for inhibiting the corrosion of metals embedded in a cementitious material, said
3 cementitious material manufacturable from a process comprising the activities of:
4 ~~providing cementitious material;~~
5 manufacturing lithium nitrate; and
6 providing said lithium nitrate for addition to said cementitious material at an
7 ~~effective dosage rate for inhibiting the corrosion of metals embedded in the~~
8 ~~cementitious material.~~

1 2. (original) The method of claim 1, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cementitious
3 material and about 100 gram moles of lithium nitrate per cubic foot of cementitious
4 material.

1 3. (original) The method of claim 1, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cementitious
3 material and about 0.1 gram moles of lithium nitrate per cubic foot of cementitious
4 material.

1 4. (original) The method of claim 1, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 1 gram moles of lithium nitrate per cubic foot of cementitious material.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 5. (original) The method of claim 1, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 10 gram moles of lithium nitrate per cubic foot of cementitious material.

1 6. (original) The method of claim 1, wherein said effective dosage rate is
2 between about 10 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 100 gram moles of lithium nitrate per cubic foot of cementitious material.

1 7. (original) The method of claim 1, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of cementitious material.

1 8. (original) The method of claim 1, wherein said lithium nitrate is provided as
2 a solid.

1 9. (original) The method of claim 1, wherein said lithium nitrate is provided in
2 an aqueous solution.

1 10. (original) The method of claim 1, wherein said cementitious material is
2 concrete.

1 11. (original) The method of claim 1, wherein said cementitious material is
2 grout.

1 12. (original) The method of claim 1, wherein said cementitious material is
2 mortar.

1 13. (original) The method of claim 1, wherein said cementitious material is
2 pozzalanic cement.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 14. (original) The method of claim 1, wherein said cementitious material is at
2 least one of cement, grout, mortar, and pozzalanic cement, or any combination thereof.

1 15. (currently amended) A ~~concrete or cementitious material manufacturable~~
2 ~~process, said~~ method for inhibiting the corrosion of metals embedded in concrete or any
3 other cementitious material, said concrete or cementitious material manufacturable
4 from a process comprising the activities of:
5 ~~providing concrete or any other cementitious material;~~
6 obtaining lithium nitrate; and
7 mixing said lithium nitrate with said concrete or cementitious material at an
8 effective dosage rate ~~for inhibiting the corrosion of metals embedded in the concrete or~~
9 ~~any other of the cementitious material.~~

1 16. (original) The method of claim 15, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of concrete or
3 cementitious material and about 100 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 17. (original) The method of claim 15, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of concrete or
3 cementitious material and about 0.1 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 18. (original) The method of claim 15, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of concrete or
3 cementitious material and about 1 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 19. (original) The method of claim 15, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of concrete or
3 cementitious material and about 10 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 20. (original) The method of claim 15, wherein said effective dosage rate is
2 between about 10 gram moles of lithium nitrate per cubic foot of concrete or
3 cementitious material and about 100 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 21. (original) The method of claim 15, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of concrete or cementitious
3 material.

1 22. (currently amended) ~~A grout manufacturable process~~ method for inhibiting
2 the corrosion of metals embedded in grout, said grout manufacturable from a process
3 comprising the activities of:
4 providing grout material;
5 obtaining lithium nitrate; and
6 mixing said lithium nitrate with said grout at an effective dosage rate for
7 inhibiting the corrosion of metals embedded in the grout.

1 23. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 80
3 gram moles of lithium nitrate per cubic foot of grout.

1 24. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 82
3 gram moles of lithium nitrate per cubic foot of grout.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 25. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 100
3 gram moles of lithium nitrate per cubic foot of grout.

1 26. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 0.1
3 gram moles of lithium nitrate per cubic foot of grout.

1 27. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of grout and about 1
3 gram moles of lithium nitrate per cubic foot of grout.

1 28. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of grout and about 10
3 gram moles of lithium nitrate per cubic foot of grout.

1 29. (original) The method of claim 22, wherein said effective dosage rate is
2 between about 10 gram moles of lithium nitrate per cubic foot of grout and about 100
3 gram moles of lithium nitrate per cubic foot of grout.

1 30. (original) The method of claim 22, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of grout.

1 31. (currently amended) ~~A mortar manufacturable process, method for~~
2 inhibiting the corrosion of metals embedded in mortar, said mortar manufacturable
3 from a said process comprising the activities of:
4 ~~providing mortar material;~~
5 obtaining lithium nitrate; and

00839-03

Serial No. 10/533,994
Response of October 4, 2007

6 mixing said lithium nitrate with said mortar at an effective dosage rate for
7 ~~inhibiting the corrosion of metals embedded in the mortar.~~

1 32. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about 80
3 gram moles of lithium nitrate per cubic foot of mortar.

1 33. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about 82
3 gram moles of lithium nitrate per cubic foot of mortar.

1 34. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about
3 100 gram moles of lithium nitrate per cubic foot of mortar.

1 35. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about
3 0.1 gram moles of lithium nitrate per cubic foot of mortar.

1 36. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of mortar and about 1
3 gram moles of lithium nitrate per cubic foot of mortar.

1 37. (original) The method of claim 31, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of mortar and about 10
3 gram moles of lithium nitrate per cubic foot of mortar.

1 38. (original) The method of claim 31, wherein said effective dosage rate is

00839-03

Serial No. 10/533,994
Response of October 4, 2007

2 between about 10 gram moles of lithium nitrate per cubic foot of mortar and about 100
3 gram moles of lithium nitrate per cubic foot of mortar.

1 39. (original) The method of claim 31, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of mortar.

1 40. (currently amended) A ~~cementitious material manufacturable process,~~
2 method for inhibiting the corrosion of metals embedded in cementitious material, said
3 cementitious material manufacturable from a said process comprising the activities of:
4 providing ~~cementitious material;~~
5 obtaining lithium nitrate; and
6 applying said lithium nitrate to the surface of said cementitious material at an
7 effective dosage rate ~~for inhibiting the corrosion of metals embedded in the~~
8 ~~cementitious material.~~

1 41. (original) The method of claim 40, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cementitious
3 material and about 100 gram moles of lithium nitrate per cubic foot of cementitious
4 material.

1 42. (original) The method of claim 40, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cementitious
3 material and about 0.10 gram moles of lithium nitrate per cubic foot of cementitious
4 material.

1 43. (original) The method of claim 40, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 1 gram moles of lithium nitrate per cubic foot of cementitious material.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 44. (original) The method of claim 40, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 10 gram moles of lithium nitrate per cubic foot of cementitious material.

1 45. (original) The method of claim 40, wherein said effective dosage rate is
2 between about 10 gram moles of lithium nitrate per cubic foot of cementitious material
3 and about 100 gram moles of lithium nitrate per cubic foot of cementitious material.

1 46. (original) The method of claim 40, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of cementitious material.

1 47. (currently amended) ~~A cementitious material manufacturable process;~~
2 method for inhibiting the corrosion of metals in embedded in cementitious material;
3 said cementitious material manufacturable from a previously heated Portland cement
4 composition, said Portland cement manufacturable from a said process comprising the
5 activities of:
6 ~~providing cementitious material, said cementitious material manufacturable~~
7 ~~from a previously heated Portland cement composition;~~
8 obtaining lithium nitrate; and
9 admixing said lithium nitrate with said Portland cement composition at an
10 effective dosage rate ~~for inhibiting the corrosion of metals in embedded in the~~
11 ~~cementitious material.~~

1 48. (original) The method of claim 47, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cement and about
3 100 gram moles of lithium nitrate per cubic foot of cement.

1 49. (original) The method of claim 47, wherein said effective dosage rate is
2 between about 0.01 gram moles of lithium nitrate per cubic foot of cement and about

00839-03

Serial No. 10/533,994
Response of October 4, 2007

3 0.1 gram moles of lithium nitrate per cubic foot of cement.

1 50. (original) The method of claim 47, wherein said effective dosage rate is
2 between about 0.1 gram moles of lithium nitrate per cubic foot of cement and about 1
3 gram moles of lithium nitrate per cubic foot of cement.

1 51. (original) The method of claim 47, wherein said effective dosage rate is
2 between about 1 gram moles of lithium nitrate per cubic foot of cement and about 10
3 gram moles of lithium nitrate per cubic foot of cement.

1 52. (original) The method of claim 47, wherein said effective dosage rate is
2 between about 10 gram moles of lithium nitrate per cubic foot of cement and about 100
3 gram moles of lithium nitrate per cubic foot of cement.

1 53. (original) The method of claim 47, wherein said effective dosage rate is
2 about 0.815 gram moles of lithium nitrate per cubic foot of cement.

1 54. (currently amended) ~~A cementitious material manufacturable process;~~
2 method for inhibiting the corrosion of metals embedded in cementitious material, said
3 cementitious material comprising a Portland cement composition, said Portland cement
4 composition creatable from a method process comprising the activities of:
5 ~~providing cementitious material, said cementitious material comprising a~~
6 ~~Portland cement composition;~~
7 obtaining lithium nitrate;
8 admixing said lithium nitrate with said Portland cement in an amount sufficient
9 to inhibit the corrosion of metals; and
10 heating said material to form a Portland cement clinker ~~for inhibiting the~~
11 ~~corrosion of metals embedded in cementitious material.~~

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 55. (original) The method of claim 54, wherein said sufficient amount
2 provides a molar ratio of lithium to sodium equivalent in the resultant cement clinker
3 of between about 0.01:1 to about 10:1.

1 56. (original) The method of claim 54, wherein said sufficient amount
2 provides a molar ratio of lithium to sodium equivalent in the resultant cement clinker
3 of between about 0.01:1 to about 0.1:1.

1 57. (original) The method of claim 54, wherein said sufficient amount
2 provides a molar ratio of lithium to sodium equivalent in the resultant cement clinker
3 of between about 0.1:1 to about 1:1.

1 58. (original) The method of claim 54, wherein said sufficient amount
2 provides a molar ratio of lithium to sodium equivalent in the resultant cement clinker
3 of between about 1:1 to about 5:1.

1 59. (original) The method of claim 54, wherein said sufficient amount
2 provides a molar ratio of lithium to sodium equivalent in the resultant cement clinker
3 of between about 5:1 to about 10:1.

1 60. (cancelled) A composition comprising:
2 a concrete or cementitious material comprising between about 0.01 gram moles
3 of lithium nitrate per cubic foot of concrete to about 100 gram moles of lithium nitrate
4 per cubic foot of concrete or cementitious material.

1 61. (cancelled) The composition of claim 60, wherein said concrete or
2 cementitious material comprises between about 0.01 gram moles of lithium nitrate per
3 cubic foot of concrete to about 0.1 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 62. (cancelled) The composition of claim 60, wherein said concrete or
2 cementitious material comprises between about 0.1 gram moles of lithium nitrate per
3 cubic foot of concrete to about 1 gram moles of lithium nitrate per cubic foot of
4 concrete.

1 63. (cancelled) The composition of claim 60, wherein said concrete or
2 cementitious material comprises between about 1 gram moles of lithium nitrate per
3 cubic foot of concrete to about 10 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 64. (cancelled) The composition of claim 60, wherein said concrete or
2 cementitious material comprises between about 10 gram moles of lithium nitrate per
3 cubic foot of concrete to about 100 gram moles of lithium nitrate per cubic foot of
4 concrete or cementitious material.

1 65. (cancelled) The composition of claim 60, wherein said concrete or
2 cementitious material comprises about 0.815 gram moles of lithium nitrate per cubic
3 foot of grout or cementitious material.

1 66. (cancelled) A composition comprising:
2 a grout comprising between about 0.01 gram moles of lithium nitrate per cubic
3 foot of grout to about 100 gram moles of lithium nitrate per cubic foot of grout.

1 67. (cancelled) The composition of claim 66, wherein said grout comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 80
3 gram moles of lithium nitrate per cubic foot of grout.

1 68. (cancelled) The composition of claim 66, wherein said grout comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 82

00839-03

Serial No. 10/533,994
Response of October 4, 2007

3 gram moles of lithium nitrate per cubic foot of grout.

1 69. (cancelled) The composition of claim 66, wherein grout comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of grout and about 0.1
3 gram moles of lithium nitrate per cubic foot of grout.

1 70. (cancelled) The composition of claim 66, wherein said grout between
2 about 0.1 gram moles of lithium nitrate per cubic foot of grout and about 1 gram moles
3 of lithium nitrate per cubic foot of grout.

1 71. (cancelled) The composition of claim 66, wherein said grout comprises
2 between about 1 gram moles of lithium nitrate per cubic foot of grout and about 10
3 gram moles of lithium nitrate per cubic foot of grout.

1 72. (cancelled) The composition of claim 66, wherein said grout comprises
2 between about 10 gram moles of lithium nitrate per cubic foot of grout and about 100
3 gram moles of lithium nitrate per cubic foot of grout.

1 73. (cancelled) The composition of claim 66, wherein said grout comprises
2 about 0.815 gram moles of lithium nitrate per cubic foot of grout.

1 74. (cancelled) A composition comprising:
2 a mortar comprising between about 0.01 gram moles of lithium nitrate per cubic
3 foot of mortar to about 100 gram moles of lithium nitrate per cubic foot of mortar.

1 75. (cancelled) The composition of claim 74, wherein said mortar comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about 80
3 gram moles of lithium nitrate per cubic foot of mortar.

00839-03

Serial No. 10/533,994
Response of October 4, 2007

1 76. (cancelled) The composition of claim 74, wherein said mortar comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about 82
3 gram moles of lithium nitrate per cubic foot of mortar.

1 77. (cancelled) The composition of claim 74, wherein mortar comprises
2 between about 0.01 gram moles of lithium nitrate per cubic foot of mortar and about
3 0.1 gram moles of lithium nitrate per cubic foot of mortar.

1 78. (cancelled) The composition of claim 74, wherein said mortar between
2 about 0.1 gram moles of lithium nitrate per cubic foot of mortar and about 1 gram
3 moles of lithium nitrate per cubic foot of mortar.

1 79. (cancelled) The composition of claim 74, wherein said mortar comprises
2 between about 1 gram moles of lithium nitrate per cubic foot of mortar and about 10
3 gram moles of lithium nitrate per cubic foot of mortar.

1 80. (cancelled) The composition of claim 74, wherein said mortar comprises
2 between about 10 gram moles of lithium nitrate per cubic foot of mortar and about 100
3 gram moles of lithium nitrate per cubic foot of mortar.

1 81. (cancelled) The composition of claim 74, wherein said mortar comprises
2 about 0.815 gram moles of lithium nitrate per cubic foot of mortar.

1 82. (cancelled) A composition comprising:
2 a cementitious material comprising an effective amount lithium nitrate per
3 cubic foot of cementitious material for inhibiting the corrosion of metals embedded in
4 cementitious material.